

WHAT IS CLAIMED IS:

1. A device to extend the useful life of a lubricant in an EGR equipped engine comprising:

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- a) A chemical filter placed in the EGR stream
- b) A heat exchanger /cooler placed in the upstream of the filter to reduce the temperature of said EGR stream and to increase the relative humidity.

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2. A device as in Claim 1 wherein the chemical filter is placed in said EGR stream such that the relative humidity is greater than about 20%.

15 3. A device as in Claim 1 wherein the chemical filter is placed in said EGR stream such that the preferred relative humidity is greater than about 50%.

4. A method to extend the useful life of an EGR equipped internal combustion engine using the system described in Claim 1.

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5. A device to extend the useful life of a lubricant in an EGR equipped engine comprising:

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- a) An optional chemical filter placed in the EGR stream
- b) A chemical filter placed just before the intake manifold
- c) A heat exchanger / cooler placed in the upstream of the chemical filters to reduce the temperature of said EGR stream and to increase the relative humidity.

6. A device as in Claim 5 wherein the chemical filter is placed in said locations such that the relative humidity is greater than about 20%.

7. A device as in Claim 5 wherein the chemical filter is placed in said 5 locations such that the preferred relative humidity is greater than about 50%.

8. A method to extend the useful life of an EGR equipped internal combustion engine using the system described in Claim 5.

10 9. A device to extend the useful life of a lubricant in an EGR equipped engine comprising:

- a) A chemical filter placed in the EGR stream
- b) A heat exchanger / cooler placed in the upstream of the chemical 15 filter to reduce the temperature of said EGR stream and to increase the relative humidity
- c) An oil filter capable of neutralizing acids in the engine lubricant

10. A device as in Claim 9 wherein the chemical filter is placed said 20 locations such that the relative humidity is greater than about 20%.

11. A device as in Claim 9 wherein the chemical filter is placed said locations such that the preferred relative humidity is greater than about 50%.

25 12. A method to extend the useful life of an EGR equipped internal combustion engine using the system described in Claim 9.

13. A device to extend the useful life of a lubricant in an EGR equipped engine comprising:

- 5            a) An optional chemical filter placed in the EGR stream  
              b) A chemical filter placed just before the intake manifold  
              c) A heat exchanger / cooler placed in the upstream of the chemical  
              filters to reduce the temperature of said EGR stream and to  
              increase the relative humidity  
              d) An oil filter capable of neutralizing acids in the engine lubricant.

10          14. A device as in Claim 13 wherein the chemical filter is placed said  
              locations such that the relative humidity is greater than about 20%.

15          15. A device as in Claim 13 wherein the chemical filter is placed said  
              locations such that the preferred relative humidity is greater than about 50%.

16. A method to extend the useful life of an EGR equipped internal  
combustion engine using the system described in Claim 13.